

Lesson 1-3

Properties of Numbers

Name: _____

Date: _____

Period: _____



Homework Video Tutor

Web Code: aqe-0103

Objective: We will be able to understand and use the properties of numbers.

New Vocabulary: Commutative Properties, Associative Properties, Identity Properties

The properties of numbers can help you do mental math

Properties of Addition

Commutative Property of Addition: _____

Associative Property of Addition: _____

Identity Property of Addition: _____

Example 1: The table shows two groups of students who went on a field trip. Use mental math to find the total number of students.

| Room | Number of Students |
|------|--------------------|
| 101 | 32 |
| 102 | 28 |



Quick Check: Find $36 + 25 + 34$ mentally.

Properties of Multiplication

Commutative Property of Multiplication: _____
_____.

Associative Property of Multiplication: _____
_____.

Identity Property of Multiplication: _____
_____.

Example 1: Use mental math to find $4 \times 8 \times 25$

 **Quick Check:** Find $20 \times (6 \times 5)$

Homework Exercises

| Show Your Work! | Corrections/Comments/Explanations |
|---|-----------------------------------|
| <p>(1) Name the property that justifies each step.</p> <p>$(4 \times 9) \times 5 = (9 \times 4) \times 5$ _____</p> <p>$= 9 \times (4 \times 5)$ _____</p> <p>$= 9 \times 20 = 180$</p> | |

(2) Use mental math to find $(25 \times 9) \times 8$. Describe the steps you used.

(3) Use mental math to find each sum.

a) $32 + 48 =$ _____

b) $81 + 23 + 19 =$ _____

c) $(8 + 17) + 13 = \underline{\hspace{2cm}}$

(4) Use mental math to find each product.

a) $5 \times 47 \times 2 =$ _____

b) $25 \times 13 \times 4 =$ _____

c) $65 \times (100 \times 2) =$ _____

(5) Review (1-1) Write six trillion, two hundred fifty billion, four hundred twenty- two thousand, one hundred fifty-five in standard form.

(6) Challenge – For each answer, give an example of why or why not.

Is subtraction commutative?

Is division commutative?

